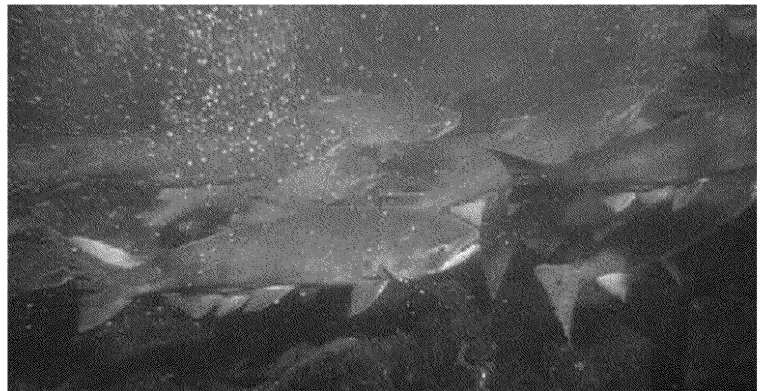
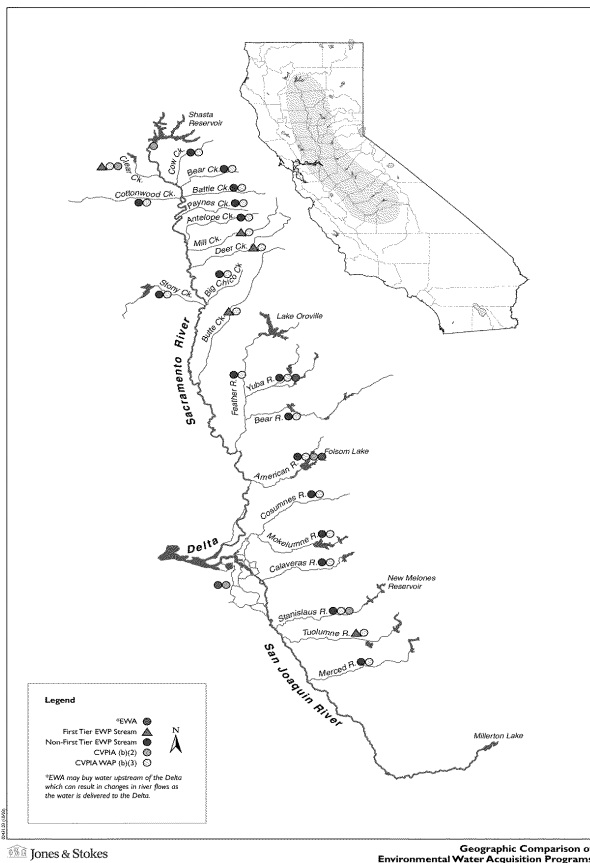


Vernalis Flow Standard and South Delta Salinity Objectives

Status of San Joaquin Basin Fall-run Chinook



State Water Resources
Control Board Workshop,
April 22, 2009

Roger Guinea

USFWS, Region 8, Sacramento

ED_000733_DD_NSF_00008855-00001

Status of San Joaquin Basin Fall-run Chinook

- Interior is concerned about the continued decline of San Joaquin Basin fall-run Chinook salmon.
- In-river adult escapement into the three main San Joaquin tributaries (Stanislaus, Tuolumne, and Merced Rivers) has declined since 2000 when an estimated 37,500 adult Chinook returned to spawn.
- In 2008, preliminary estimates are that approximately 2,400 adult Chinook Salmon returned, which represents a 94% decrease since 2000.
- Ocean conditions have likely been a factor in the recent decline, however ongoing long-term studies indicate that lower instream flows in the San Joaquin system are related to low numbers of salmon returning to spawn.

Stanislaus, Tuolumne and Merced Rivers

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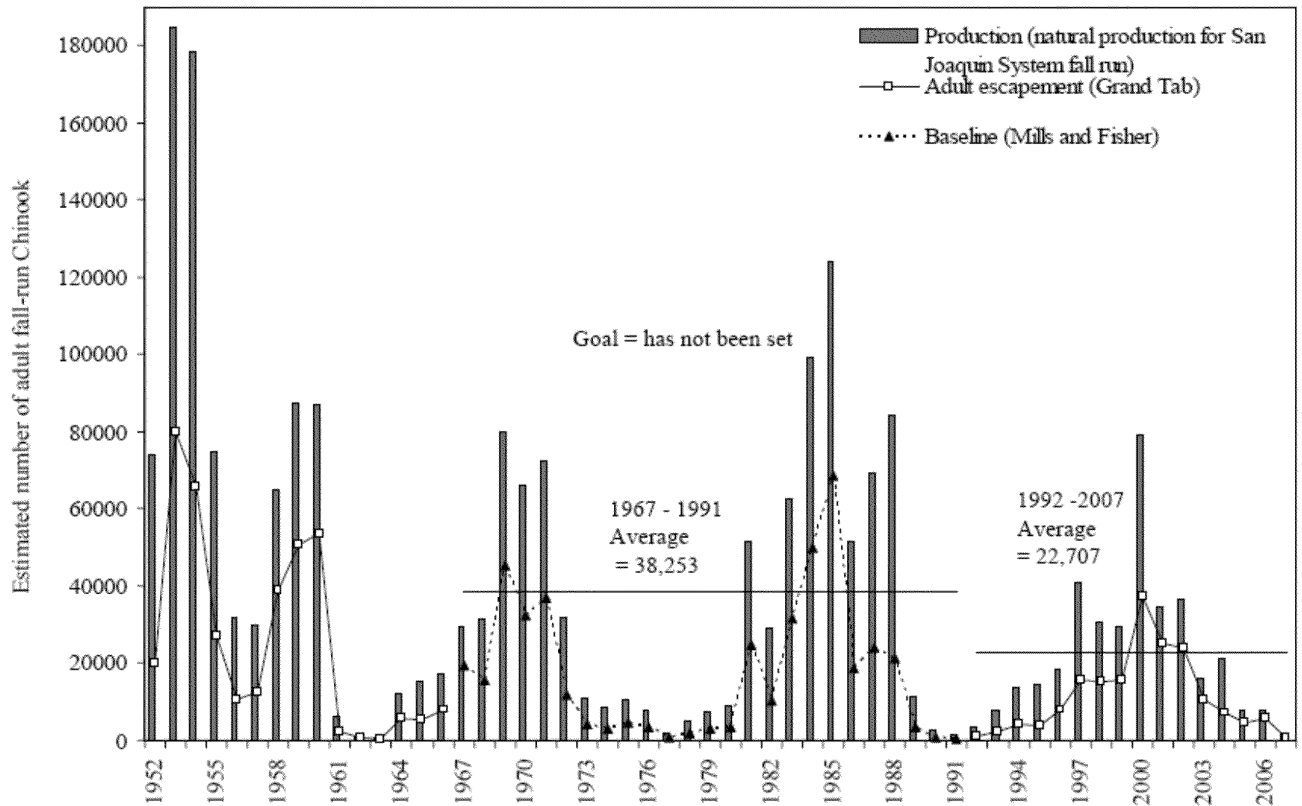


Figure 37. Estimated yearly natural production, and in river escapements of San Joaquin System adult fall-run Chinook salmon. The San Joaquin System is the sum of the Stanislaus, Tuolumne, and Merced Rivers. 1952 - 1966, and 1992 - 2006 numbers are from CDFG Grand Tab (August 20, 2007). Baseline numbers (1967 - 1991) are from Mills and Fisher (CDFG, 1994).

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Stanislaus River

DRAFT

03-13-08

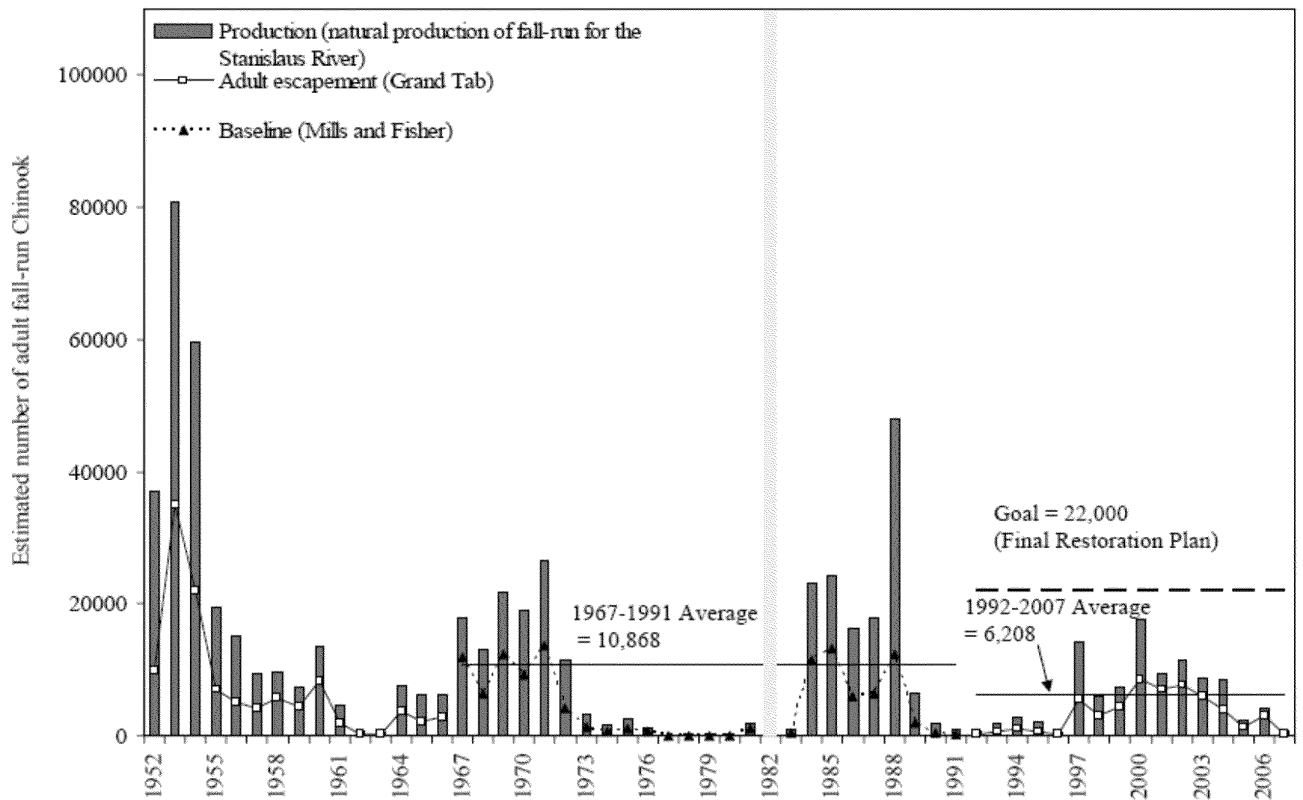


Figure 34. Estimated yearly natural production, and in river escapements of Stanislaus River adult fall-run Chinook salmon. 1952 – 1966, and 1992 - 2007 numbers are from CDFG Grand Tab (March 1, 2008). Baseline numbers (1967 - 1991) are from Mills and Fisher (CDFG, 1994). = data was not available for 1982.

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Tuolumne River

DRAFT

03-13-08

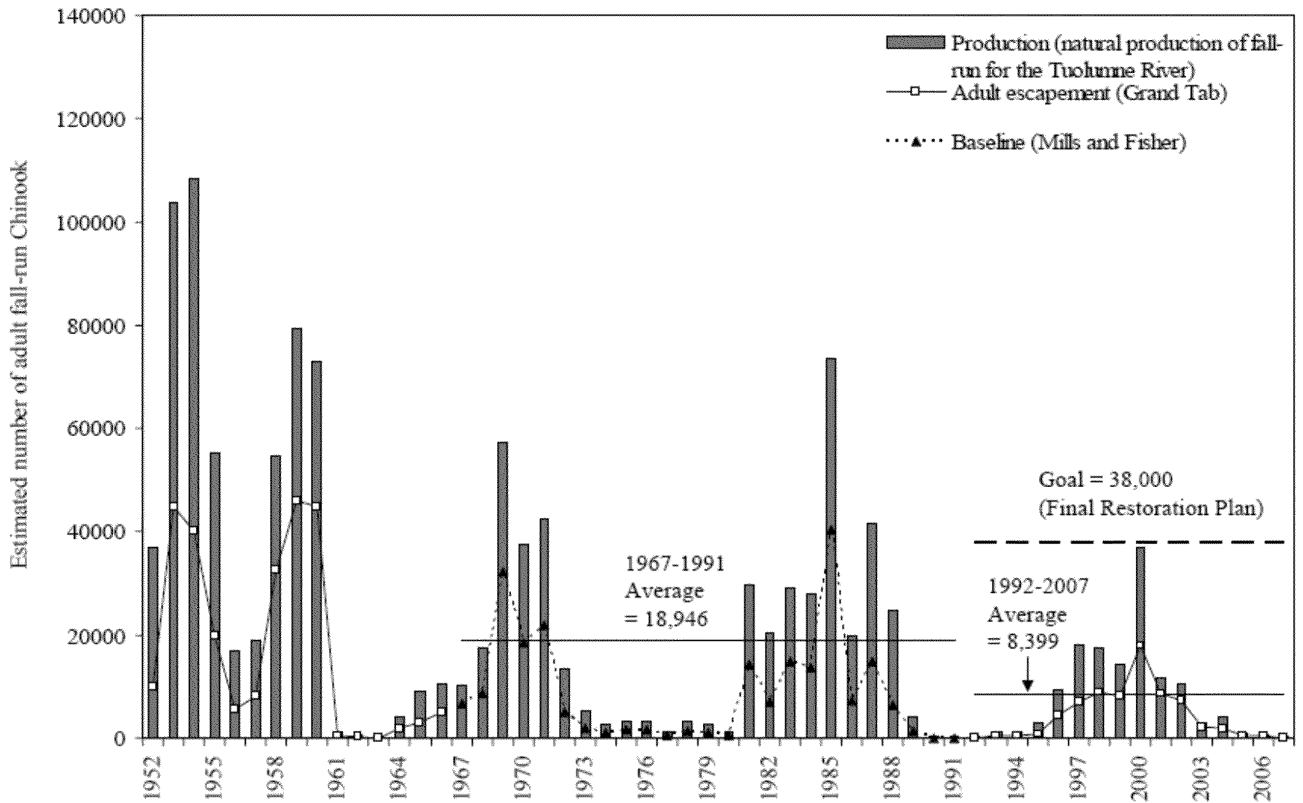


Figure 35. Estimated yearly natural production, and in river escapements of Tuolumne River adult fall-run Chinook salmon. 1952 - 1966, and 1992 - 2007 numbers are from CDFG Grand Tab (March 1, 2008). Baseline numbers (1967 - 1991) are from Mills and Fisher (CDFG, 1994).

Merced River

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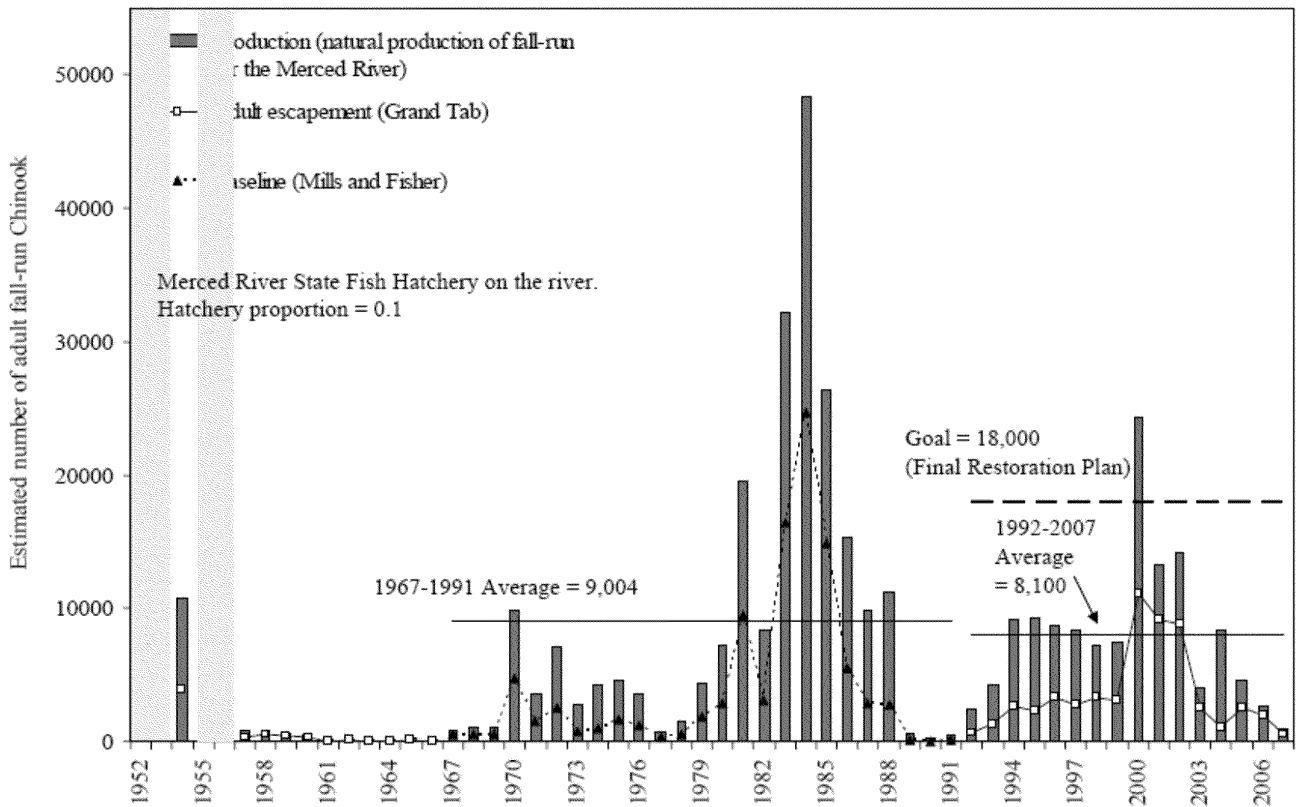


Figure 36. Estimated yearly natural production, and in river escapements of Merced River adult fall-run Chinook salmon. 1952 - 1966, and 1992 - 2007 numbers are from CDFG Grand Tab (March 1, 2008). = data was not available for 1952 - 1953, and 1955 - 1956. Baseline numbers (1967 - 1991) are from Mills and Fisher (CDFG, 1994).

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Survival of Chinook salmon smolts in the Sacramento-San Joaquin Delta and Pacific Ocean. Baker and Morhardt, 2001.

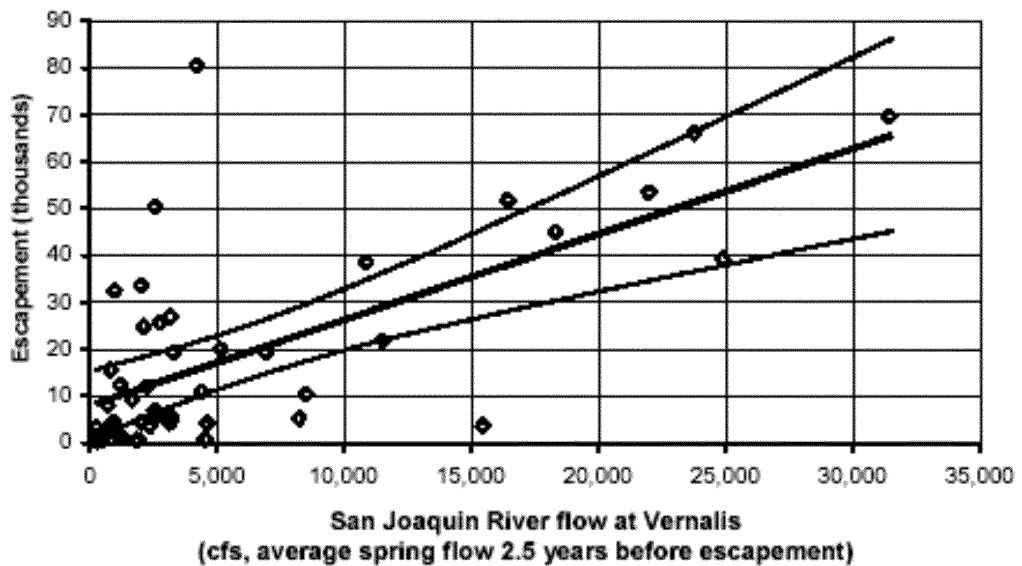
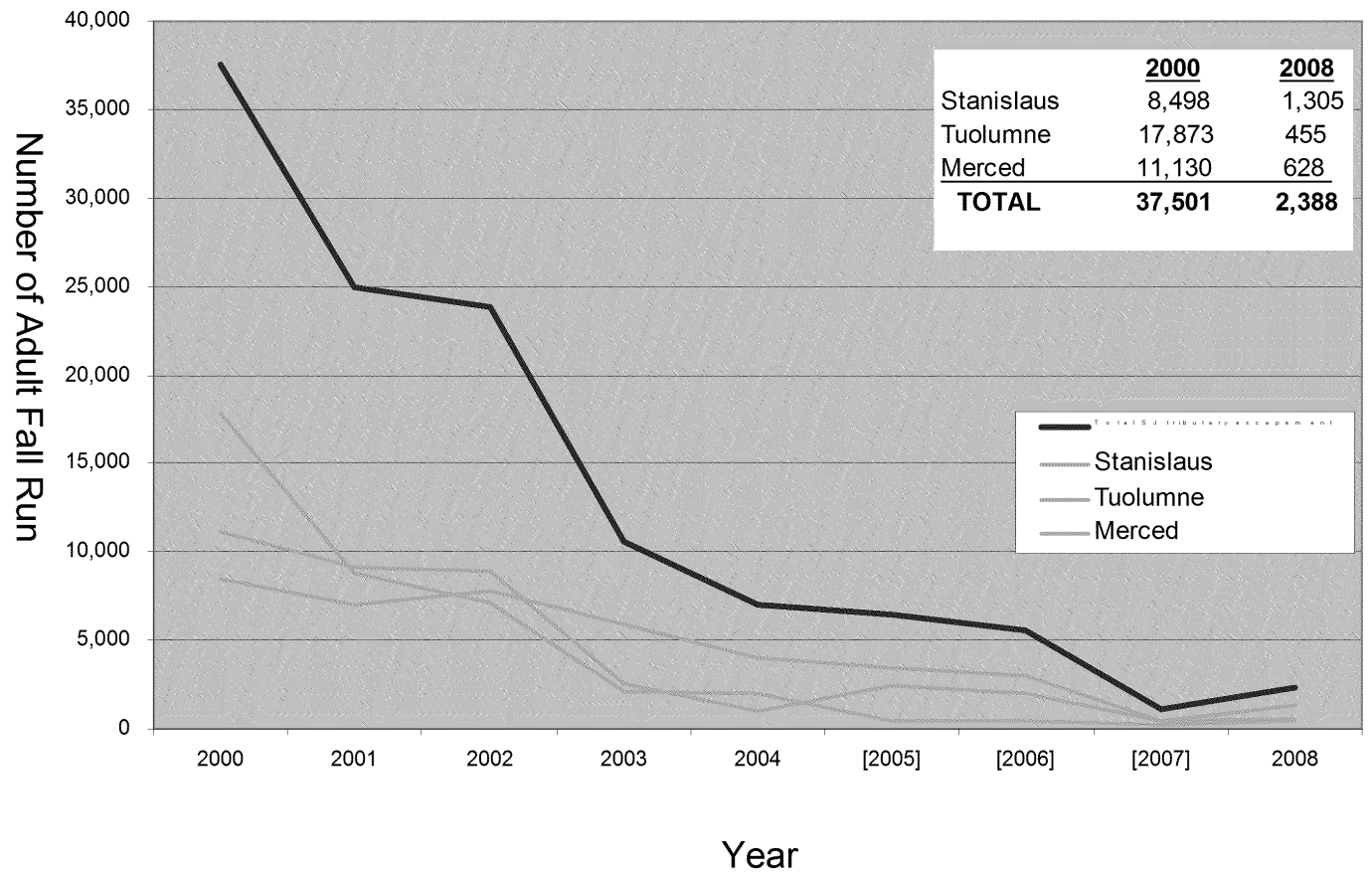


Figure 11 Total escapement to San Joaquin tributaries, 1951 through 1996, and spring flow in the San Joaquin River at Vernalis 2.5 years earlier. Fitted regression line and envelope of 95% confidence region for fitted line are shown.

San Joaquin Fall-run Escapement (in-river)
(data from draft GrandTab 03-09-09)



Vernalis Flow Standard

- The Service recognizes that the Board has asked for “information to conduct detailed discussions” regarding amendments to the 2006 WQCP, specifically; Vernalis flows.
- At this time The Service is unable to provide detailed flow recommendations.
- The Service is recommending a thorough *process* to establish flow and salinity objectives.

Vernalis Flow Standard

Service Recommendations:

- The Vernalis flow standard be evaluated and addressed in an open, cooperative *process* among federal and state agencies and interested parties
- This *process* include an evaluation of:
 - Improved hydrology information
 - The interrelated water management programs
 - Salinity management
 - Water supply reliability
 - Flow needs for instream fishery management
 - New tools such as CDFG's San Joaquin River Salmon Population Model
- Consider that relying on Vernalis flows solely from the Stanislaus does not address the fishery needs on the Tuolumne or Merced Rivers.

Vernalis Flow Standard

- Interior believes a Vernalis flow standard is an important protection for emigrating salmonids and federally listed Delta smelt.
- Interior is currently working with the interested parties to extend the existing San Joaquin River Agreement and VAMP through 2011

Vernalis Flow Standard

- Interior urges the board to use the next two years to evaluate and address the Vernalis flow standard in an open cooperative process.
- This Process should result in the Board adopting and implementing a plan for apportioning responsibility for a Vernalis flow standard among all basin water users.